DOCUMENT RESUME

ED 251 788 CS 007 679

AUTHOR Yule, Valerie
TITLE Literacy and Children's Needs in the Television Age.
PUB DATE Oct 83
NOTE 15p.; Paper presented at the United Kingdom Reading Association Annual Course and Conference (20th, Oxford, England, July 25-29, 1983).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Elementary Education; Futures (of Society); Information Science; Information Services; Literacy; *Literacy Education; Mass Instruction; Mass Media; *Mass Media Effects; Reading Habits; Reading Instruction; *Student Needs; *Technological Advancement; Telecommunications; *Television; Writing Instruction

ABSTRACT

Modern information technology holds both threats and promises for the young generation in every aspect of life--social, political, economic, cultural, and personal. Already research is showing some consequences previously unsuspected. The case for mass literacy must be reappraised to assess what sort of literacy is now required, how it must link with competence in the new technologies, and how it can be taught. The content of children's early reading and writing must be considered in order to see that their psychological needs under new stresses are met, and to aid, not warp, their emotional and intellectual development. Electronic information technology can now be used to develop radically new and fast ways of learning to read in the complementary medium of books. The role of the reading teacher may develop in new ways, and a new concept, that of an open primary school accessible to all via television, could help counterbalance other forms of television entertainment. (Author/RBW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED251788

October 1983

Literacy and Children's Needs in the Television Age

Abstract

Modern information technology holds both threats and promises for the young generation in every aspect of life - social, political, economic, cultural and personal. Already research is showing some consequences previously unsuspected.

The case for mass literacy must be re-appraised, to assess what sort of literacy is now required, how it must link with competence in the new technologies, and how it can be taught. The content of children's early reading and writing must be considered, to meet their psychological needs under new stresses, and to aid, not warp, their emotional and intellectual development.

Electronic information technology can now be used to develop radically new and fast ways of learning to read in the complementary medium of books. The role of the reading teacher may develop in new ways, and a new concept, of the 'Open Primary School' could counterbalance other forms of television entertainment.

Valerie Yule
Department of Psychology
University of Aberdeen

Paper presented at the United Kingdom Reading Association Twentieth Annual Course and Conference (Worcester Coll. of Educ. July 25-29, 1983)

CS007679

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

X Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Valerie Yule

2 TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Since so much educational time and money goes into teaching reading and writing over a long period in the life of every child, other forms of visual literacy may seem more attractive in the television age. Even teachers faced with non-readers and obstinate anti-readers may be tempted to hope that Neil Postman was right when he wrote in the Harvard Educational Review (1970) that literacy in the printed word was no longer needed except for an elite.

However, books and screen may be complementary to each other. There are some things that books and writing can still do better than the visual media which surpass them in other respects. There are some ways in which electronic communication threatens book literacy today, and other ways in which they are superb carriers of the printed word. And as books serve a function in teaching computer and video skills, so they too have great potential for radical new methods of learning to read and write.

The video screen can surpass books and periodicals -

i) Video and computer graphics are now near perfect means for visual demonstration of complex operations and events. There was a 'Handyman' series in Punch hilariously demonstrating the confusion that can be caused by the limitations of text-and-diagram manuals, and in many shops and training courses textbooks and handbooks are supplementary to the greater efficiency of video demonstration.

ii) Books are inferior to television and film to show the surface manifestations of life and the visual appearance of the world, going far beyond what the eye can normally see, unlimited by distance and up-to-the-minute in time.

iii) Television gives instant entertainment at the touch of a button; at the touch of another button, information can be summoned up and analysed from distant computer data-bases.

However, children still need to learn to read, and it can be extremely dangerous to let them assume that they need not.

Society needs the printed word still

Minimum literacy is needed to find one's way around a world of labels and signs, directions and forms, to cope with complex rules and rights in our society, and even to get beyond 'Star Wars' level in the new 'computer literacy'.

Literacy gives access to knowledge, whether it is stored electronically

or on paper, and power still lies with those who have knowledge and access to knowledge - it is a bad day when the power-base relies more on armed force and ignorance.

Maximum literacy for the whole population is needed not just to continue 'civilisation as we know it' but also as it could become for assured life and liberty. B.O.O.K.S., that amazing invention and acronym for 'Bodies of Organized Knowledge' in another famous Punch feature, form permanent records that are not dependant on machines in good working order. Electronic media can rewrite history undetectably and obliterate philosophy, with tapes that can be invisibly edited and pictures that can be invisibly re-arranged, but as long as old books survive somewhere, Orwell's nightmare of 1984 cannot be complete.

Television and radio have a major limitation, in that they have become too fast, and operate within time sequences. The world of the mind and of understanding, and communication with other minds far in time and space, is permanently conveyed in books, in forms not transient, but can be reflected upon. Their world of imagination can resonate in the readers' minds, which supply what the words elicit but do not explicitly determine. The myth and symbol within books survives across time and generations, and provide a common core for culture as a basis for the language of thinking and imagination.

Children who do not become good readers miss out on a world of thought and ideas, and a literary heritage, a source of wisdom and consolation.

Book literacy is needed to complement and even counterbalance what children learn from television

Exposure to electronic media without real experience of the world or the wider world of good books can limit views of life to a tunnel vision at a point in time. Television and film have their own inbuilt risks of developing their own canons of what is thought to be 'realism', what is presentable, and how briefly any sequence of thought can be permitted to run -often no more than 4½ minutes. Book-fashions can reflect these trends too, of course, and it is worth introducing children to the back-stacks in children's libraries too, to help them realise what spectacles we put on and could take off too.

There are some risks in television that have not yet been estimated. Are there limens or appetites for stimulation that keep edging higher, so that more intense and stronger impact stimuli are increasingly

required for viewers sated and bombarded - particularly children with tastes set early! There are hypnotic aspects to electronic sound and visual effects that can encourage prolonged passivity of mind and body, with possibly consequent risks of impulsivity and failure of self-control when there is action - and again for children, possibly a taste for hypnogogics in other forms as well, to also blur mental faculties in a way that has become for them pleasurable. And when criteria of instant entertainment value become paramount, the presentation of information and opinion is often distorted and cut to snippets.

Speed has a fascination on television, and some child-watched programmes have become too fast in action for events to be comprehensible, and it can seem to adults that in fact meaning is sometimes secondary - the action impact is all. The quickest and visually most dramatic events on television are destruction rather than construction, (count the balance yourself of what is made and what is destroyed and what is cleared up or repaired), criminal rather than responsible behaviour in business and industry, conflict rather than harmony in human relations, and violence rather than wit or humour in comedy. There is some evidence that children make less compassionate identification with realistic rather than superheroes on television, whereas in books the reader supplies part of each character from themselves in imagination. Good things, including real-life fun, can seem dull on television, and it is not uncommon to hear adults who are now the first 'television-reared' generation assert that goodness and harmony in real life must be dull too. Books can use the magic of words to evoke happiness, love of the beautiful, and pleasure in peaceful activities or contemplation.

It is of course possible that the electronic media are only in their infancy and have not yet discovered a full potential to transmit the less destructive aspects of life. And it is no doubt true that children from happy and caring home environments may seem little affected (but what about sources for adult depression, and morbid tastes?)

The risks of television dependency and maladaptive learning seem to be higher for children whose home circumstances make them most vulnerable through neglect or rejection. They cannot find meaning in their own disturbed early relationships, nor in the television that is their babysitter from infancy, watched with no adult interpreter.

A great deal of the television that they watch nowadays consists, if you stop to time it, of fast moving montages that convey visual sensation rather than meaning or information, and of fast cars, fast planes, sudden explosions, inexplicable hostilities - or causation only comprehensible at an adult level.

So there are many children that the teacher is expected to teach to read, who have come to school trained by both home and television not to expect to find meaning in what they do, and without intellectual curiosity because all the answers they expect to find would be unpleasant. How can 'comprehension exercises' teach them to process their school-work with any expectation of purpose or understanding?

And when we speak of 'starting where the children are' and basing new learning only on their own experiences, we should remember that even the most fortunate children today experience at an early age the sight of all the world's troubles in their living rooms.

Learning to love books is therefore extremely important for children, to give a wider source of entertainment and knowledge, consolation and inspiration, and models of real human beings for living.

Children today have often only short periods of time available for reading, away from television. Bombarding them with books regardless of quality can be a mistaken policy, as they cannot sort them out easily and can become disaffected by the chaff. Tastes develop early, and whether lowbrow, middlebrow or highbrow, everything provided for them at every mental age level should be the best that can be found for children, and found with their co-operation. They often have an appetite for 'civilising influences' that teachers would not credit who select more whimsical, dismal or antisocial moral content. It is a shame for teachers to go to such trouble to teach literacy, without regard for tastes, and find they have produced a reading public that has learnt a bias for nasty pot-boiler paperbacks and tabloids, because their other potential has been undeveloped.

Because of television, therefore, there is a greater need for children to be able to read, and to read well and avidly.

<u>But television can also make it harder for children to learn to read.</u>

<u>Motivation</u>. You do not have to work to get the immediate reward of entertainment from television. Children need to have some awareness of the rewards of reading in order to work to learn it - to please the

teacher cannot be relied upon as a magic carrot. Pictures in books do not necessarily make the print look interesting, particularly if they carry the story better than the text, as they often do in beginners' books. It is also more intellectually stimulating to learn with some understanding of why you are set to learn any subject.

Time for reading. A good reader has usually read over a quarter of a million words before the age of eight, it has been estimated. TV, including TV in schools, can take away the time available for this enterprise.

Learning habits. So far there has been more speculation than research on whether early television-watching unmatched by early book-watching may train habits that could interfere with easy acquisition of reading skills, through establishing different styles for attention and concentration, selective memory, attention to language, and in perceptual strategies of eye-movements and scanning, and integration of visual and auditory modalities. Many poor readers can be observed to sample books by flicking through them -almost as ff they expected the pictures to move - without a second glance at any page, in contrast to the good readers whose sampling methods include momentary pausing to taste the text or examine a picture.

Tuning out to language. It has been shown that children's language and vocabulary benefit from audio-visual media such as television when they have been accustomed to conversation with adults at home, but children lacking that adult catalyst can learn to watch without attending to the words at all except as noises, and fail to try to get the meaning of events from the spoken word. Despite work showing that language inadequate for school learning may be effective in everyday life (e.g. Laboy (1972) 'restricted' language may be a problem when children come to school with speaking vocabularies of under 500 words, and comprehension of speech limited even in their own dialect.

Educational expedients may also be maladaptive responses to these problems, and make the children's situation worse in the long run.

When children have poor language development for school learning, the limited-vocabulary reading books intended to help them learn to read can also limit further language development. Reading in primary school is known to be a major source of new vocabulary, concepts and ideas.

Much current work is going into efforts to reduce and simplify text and vocabulary in first, infant reading books, then at junior

level, and now in secondary-school textbooks and even college books. At each level, simplification passes the problem on to the next level. Simpler text in science books risks oversimplifying the content; in English books, the writing style can be turned into stodge.

Indexes of 'readability' can be used to count the length of words and sentences, and encourage shortening them further, even at the risk of reducing connected thought and argument. Intrinsic 'readability' depends not only on the reader's interest, but also on style and clarity of writing. A book with a pleasing style can be read and read again without wearying, helping the learner to become more fluent through this repeated practice, and a better writer through absorption of many good literary models as a 'compost' for her own writing style.

The influence of other visual media also appears in current tendencies not limited to educational books, to turn the printed page into a visual rather than a communicating experience, and to be concerned with immediate attractiveness and 'sales appeal' rather than comfort of actual reading and 'user appeal'.

Even learned journals may now use larger print, with less of it on the page. Economy apart, such trends may handicap very fast, efficient readers whose strategy is to absorb a great deal with each sweep of the eye, so that compact text is an advantage. And it becomes more difficult for other readers to develop faster reading too.

Design schools are emphasising striking, fashionable appearance, with words crammed so close together, barely spaced, that print can look like pretty border patterns with the illusion of a message - the layout artist may not even expect it to be read. The overall effect is pleasing, like a carpet pattern or abstract picture. Many action comics today are looked at, not read - the script may be almost illegible. In school books, a few lines on each picture page may be seen as less 'frightening' for children, as if print was to be feared - but the practice can prevent learners grasping the full sequential meaning of what is presented in such snippets, particularly for poor readers with short-term memory problems even in turning a page.

A third development is to take advantage of children's enthusiastic response and facility with the new electronic media, and simply put all the old boring paper-and-pencil exercises on to computer screens. The motivational assets are novelty, that it is easier to press buttons than

to make handwritten responses, and there can be an addictive fascination in the moving lights on the screen. However, education has never got very far on bandwagons, and children will become tired of the screen too, if micro programs are merely the old exercises jazzed up, with the same boring lack of meaningful content or continuity or effective transfer into real reading and writing.

There can be a limit to the amount of time young children should spend facing a screen, even an educational one. We do not know enough of the long-term effects on their developing vision, or whether the element of passivity needs much more counterbalance in schools with manual labour and practical mechanics and participation in school maintenance. Even too much exposure to electronic squeaks and blips needs to be ruled out as a long-term risk.

Could modern information technology revolutionise the teaching of literacy?

Although the television age sets new problems and new needs for children, it also has the potential to revolutionise the way literacy is taught - not merely providing faster or different means to learn by the same familiar routes.

The Bullock report affirmed (1975) that 'most children learn to read, whatever the method used'. If this remains true, then improvement in teaching methods should be aimed at preventing reading failure in that rather large minority group of children who are not learning to read, whatever the current method, or are learning so reluctantly that the estimated two million adults functionally illiterate (Adult Literacy Unit, 1983) is partly made up of 'ex-literates' who 'forgot' as soon as they could.

A second major need is to expedite the learning of the first basic steps in literacy for all learners. Then they could be rewarded from the outset by independent reading for personal interest, and in regular school subjects. Although some gap between good and poor readers is inevitable given the variable distribution of human abilities, the width of the present gap is socially intolerable, and largely, perhaps, made up by qualitative differences in reading strategies. The fortunate few 'cotton on how to do it', as many textbooks on reading admit; how can their more efficient strategies be communicated to all?

Video and computers now make 'Teach Yourself to Read' a real possibility - hire the programs and the books of your choice from the local video library, and learn in the privacy of your own home. It was impossible to teach yourself in the past 'without a little help from your friends', for how could you read the instructions? Now this is possible. Teachers can have more satisfying roles as educators undistracted by setting exercises and crowd-controlling, and because learning to read will be challenging and interesting, not traumatic and wearying, everyone capable of learning may not only read, but like reading, and so publishers will have vast new markets of adult and child readers.

One step in this direction is the 'Writing to Read' project of J.H.Martin in the United States, funded by IBM and being evaluated by the U.S. Educational Testing Service. Personal computers, typewriters, taperecorders, cassettes and accessories including voice output and colour graphics for the computers are incorporated for beginners, with typewriting rather than handwriting, and a phonemic spelling that merges into conventional spelling. It is still possible that for all its array of technology, its step-by-step single path learning track may not take sufficient advantage of what research and development in information technology can offer education today.

If knowledge is to be more than an explosion - an incomprehensible barrage - the best key to it is through 'schemata' (Piaget's term) in your own head, a ready-organized mental data-base that can accommodate and change to new knowledge as it assimilates it. Computer graphics with auditory mnemonics could establish a cognitive base for understanding reading through visual spatial 'maps', particularly valuable for socially-disadvantaged children who today come to school without the makings of any schema for reading through previous experience, and for the 'specific learning disability' children who are so easily confused. Video visuals could be used as maps are used, to find your way around, not to learn by heart, and they would act as 'advance organizers' and also as instantly available revision-summaries - a particular boon for learners whose experience of life to date has been that each day's work disappears, usually in the bin. A complete set of learning can be presented in a spatial framework that 'chunks' information, and this information can be visibly presented, taken apart, and as the learner watches, put together again. The basic principle is 'a single way to

learn a hundred connected things' that can then be elaborated further, rather than 'a hundred ways to learn one thing', which the average student may profit from, but which bewilders the vulnerable, who can often remember the games and the 'activities' but not the 'words' they were supposed to teach. As the maps fill in - for letters, sounds, spelling, grammar, punctuation, semantics - students discover that what appeared complex has 'jelled' to become simple, as it does in all learning that is mastered. And it is a worth-while learning experience for life to have the discovery of mastering something that had on first presentation looked so impressively difficult.

A video-cassette can present information in a systematic way, that the user can run through quickly for an overall view, then rattle backwards and forwards at will, to find out where it is all going, revise where it has been, fill in gaps, practice what individual learners find they need to practice. Then quick learners need not be bored, over-eager learners can retrace steps impetuously jumped, slow learners need not be confused or suffer 'How many times have you been told!' while the average learner can study in an independent way that stimulates intellect and reasoning, rather than merely docilely rote-learning. Colour, animation and lively presentation can make a package attractive enough for enjoyable re-running to the point of mastery and beyond.

Animated colour visuals can demonstrate in minutes the main features of how to remember the shape of letters, their flexible relation to sounds, how letters make words, the nature of vowels and consonants, basic grammar, and arrangement and re-arrangement of word and sentence order, linked from the very beginning with books that the student can enjoy reading for their content - not snippety 'sentences' or isolated strings of words. Currently available techniques include scrolling vertically and horizontally, running cursors, lighting up key points, zooming and panning so that detail can be related to a complete systematic setting out of information in a pictorial chart form, plus immediate feedback, branching according to learner response, and the prospective option of input by writing or drawing on a pad as well as tapping on keys. 'Language Experience' can be both using one's own language in expression and developing it through good reading.

This idea of 'network' learning of a complex structure through video demonstration is the extension of use of pictorial charts that have been tried out successfully on a small scale. And video can also be used to demonstrate learning methods like these. An example is

PREPARING TO READ THROUGH PLAY (Aberdeen University Television 1983) which shows nursery-school children playing with charts that show them how the printed word operates, and how the alphabet can be a compact filing system within which expanding knowledge can be mentally 'filed' to explain the variable relationship of sounds and print, and make first reading a clearly understood activity. It operates rather like natural spoken language learning - a network of comprehension is shown building up around the islands of knowledge that are at first the salient ones to the individual child - their own name, or a particularly salient letter or word or pages in a favourite book.

The potential of electronic media can be exploited to demonstrate a variety of reading strategies and their linking in efficient reading for meaning from the beginning - visual, phonic, semantic, lexical, context - to ensure that learners with difficulty in one mode have a safety net in the others, and all children develop maximum flexibility and fluency.

Pupils who have used information technology to gain rapid and efficient access to literacy can then use their books to help them to make sense of the otherwise bewildering rich world that looms at them continually from the TV screen. 'The basic function of a teacher is to reduce confusion and kindle enthusiasm' - teachers can help the students in their battle for intelligibility, by ensuring that they have a systematic foundation of knowledge about the world in space and in time, and a background realization of 'real' life that can provide perspective to the 'exaggerated realism' (a film critic's phrase) of horrors real and imaginary on the screen. Video is already being developed to help parents ignorant of how to talk or play with or enjoy their children, so that children will not continue to grow up without the language skills and love of learning that can be nurtured best in secure relationships. Video can show adults ways to read books and tell stories and read <u>with</u> children rather than <u>to</u> them or 'hearing' them. So video can also be a way of ensuring that children learn about life itself from people, rather than from machines.

Teachers are now aware of the surprising proficiency with which even 3-5 year-olds can operate the new technology without prompting. I think we have yet to be aware of the surprising proficiency they will show in acquiring literacy when we are really making the most (rather than, in entertainment, the 'least') of our new horizons in media.

television age 11

Basic technology - a reminder

It is important to remember that expense is not the main criterion of an effective literacy programme. It can be a great mistake to 'go for the best' judged in money terms of the higher cost. Much more can be made of resources that are not 'high-tec' as well - a stick in the dust may do some things more effectively than all 'bug-eyes and tap-a-tap'. Some of the most attractive play materials for reading can be made at home or by older children, and books remain the most essential item in 'learning to read by reading'. Again, co-operation is the game, for video can also demonstrate these 'non-tec' aspects of becoming literate too.

In considering information technology that is modern and developing in a way hard to keep up with, there is need also to consider the old familiar technology that needs a shake-up - the information technology of the writing system - including handwriting, the shapes of alphanumeric symbols, and spelling.

J.H. Martin's initial learning spelling has the advantage over systems such as i.t.a. in that it merges into present spelling, as a clue to reading it and an introduction to writing it. It is purely phonemic and close to how children tend to spell 'naturally', but we should also be thinking now about another possibility.

Could English spelling be improved so that it helped literate readers to read faster and more efficiently? It is quite possible that our elaborate orthography may handicap skilled readers too, with the additional visual processing required by the extra letters in words that appear to serve no function, either for pronunciation or for meaning. What is the basic structure of spelling that skilled readers rely on when they skim our elaborate orthography without the visual labour that others must employ? Chomsky (1972) has presented the notion of a 'deep' lexical structure for English spelling; it is demonstrated by investigation of vocabulary lists that present spelling is far from exhibiting any such structure consistently (Yule 1978) - but perhaps research could excavate what underlies the vagaries. The underlying 'form of the word' for good readers and spellers may be something that computers could handle without needing built-in dictionaries, and it might have affinities with the no-nonsense spellings that English words are given when adopted into other languages of the world.

One feature for experimentation with a TEACH YOURSELF TO READ video-cassette would be the most effective form of structured initial learning spelling - which might later, by extension, not merely merge into present spelling, but remain as an acceptable co-existing alternative

to it. It is possible that this first extension into public usage -already with some acquaintance with the shorter spellings used in commercial product advertising - would be via computer and TV screens, the newest media being the most hospitable to further new developments that followed their human-engineering principle of aiming to be 'user'friendly'. Their operators often have more freedom than those in the print trade, and computer-regulated house-rules are easily modified.

Another medium of education that may be open to radical change through the new technology is the primary school - with the possibility of the 'Open Primary School' not too dissimilar from Open University, accessible to the same nationwide unsegregated audience with its television broadcasting.

It may be possible to have the social advantages of small primary and secondary schools, where children can grow up in real little communities that are integrated with their own home communities, and that are 'child-scale' acoording to their developmental needs,- rather than 'factory-scale' with all their depersonalisation, stress for teachers and parents, problems in accountability even extending to the need for constant guard over every belonging, and excessive overheads with minimum student participation in maintenance and innovation. Now the specialties that have made big schools seem economical can be taught through video, microcomputers and short introductory and concluding courses in centres that provided opportunities for educational travel trips, rather than the common wasteful long bus journeys daily through the school year.

The opportunities for individualised learning can also help trends away from 'Agism', that segregates people according to chronological age and can exact life-long penalties from those whose abilities do not develop within a twelve-month age-band of expectations, when they are expected to move up a 'grade' a year.

The Renaissance of learning that ended the middle ages was limited to an elite aristocracy - but the increased possibilities for 'universal literacy' in the printed word as well as in other visual media, could now make possible an unrestricted flowering of the mind. Present searches for blind escapes and forms of violent sensation are poor substitutes for the excitement of discovery, invention, and 'raised consciousness' through wider interests and apprehensions, which are equally possible in the future for everyone.

We now have a Television Age. Let's use it, constructively. If we don't, we go under to it - and our books too.

13A

Valerie Yule, Department of Psychology, King's College, University of Aberdeen.

13/ References

13 television age.

References

ADULT LITERACY AND BASIC SKILLS UNIT (1983) Literacy and Numeracy: Evidence from the National Child Development Study. London: Kingsbourne House, 229 High Holborn WC1.

CHOMSKY, C. (197o) Reading, writing and phonology. Harvard Educational Review, 40, 287-309.

LABOV, W. (1972) Language in the Inner City. Philadelphia: University of Pennsylvania.

POSTMAN, N.(1970) The Politics of Reading. Harvard Educational Review, 40, 244-252.

YULE, V.(1978) Is there evidence for Chomsky's Interpretation of English Spelling? Spelling Progress Bulletin, 18,(4), pp 10-12.

- Some relevant periodicals to watch:

AUDIO-VISUAL, EDUCATIONAL COMPUTING and educational issues of BYTE.

- For overviews of television research:

NATIONAL INSTITUTE OF MENTAL HEALTH IN USA (1982) Television and Behaviour: Ten years of Scientific Progress and Implications for the Eighties.

SINGER, J. (1983) Implications of Childhood Television Viewing. in Bryant, J and Anderson,D.R. Children's Understanding of Television. New York; Academic Press.

SURGEON GENERAL's SCIENTIFIC ADVISORY COMMITTEE ON TELEVISION AND GROWING UP. (1972 and review 1982) The Impact of Television Violence. U.S. Washington DC: US Government Printing Office.